VIRGINIA WILDLIFE

MAY 1988

ONE DOLLAR

Editor's Page

Every spring when I was young, the yellow daffodils used to poke up out of the dirt along the garden walkway at home. I believe I was 10 years old when my mother, being the great educator, snipped off a daffodil bloom with a flourish and plopped it into a clear vase of water. "Now," she pronounced, "I want you to take a look at this flower for the next few days. See if anything happens." She was, of course, instructing me in the rites of spring by calling my attention to the swelling of the daffodil's ovary just underneath the petals, to its self-fertilization magic. It was a pretty good first lesson in biology.

Without a doubt, it is easier to instruct and learn from things within an arm's reach or a step away. Whether it be a science lesson from a flower or an exercise in discipline from behind a lawnmower on a bright Saturday morning, those lessons learned close to home seem to stick. Still, I think these simple lessons have fallen out of favor these days. After all, it's much more exciting to think about studying birds in Australia or learning how to flyfish in Montana than it is to learn the basics of birdwatching in your own backyard, or flyfishing in a neighbor's farm pond.

But, I'm not at all sure that an exotic trip or a formal education cures ignorance as much as it promises to, especially when you're talking about understanding the workings of the natural world. Because, when I read headlines like "Leave it to Beavers, and Forests May Fall," in a local county newspaper, or hear people talk about reviving bounties on predators, I know that something has slipped by us in our education. And I think alot of it might be due to the fact that we've let the natural world get out of arm's reach. So, I'm thinking that looking to a patch of dirt or a puddle of water in our own backyards might help wise us up. Yes, I think when the screen door slams and you step off the back porch, then it's time for the lessons to begin.

Now, I know that most of us already have pampered backyards with azaleas and dogwoods and bright green Kentucky 31 fescue that we carefully tend with fertilizer and weed killer. But that kind of gardening effort is more likely than not an innocently selfish one. Mostly, we garden because we *like* what we create, be it a row of tomato plants and cucumbers or a bed of tulips that make us feel good just looking at them. And, I don't think that in itself is bad. It's just that there's much more that can be learned from working with the land than simply a knowledge of what shrubs grow best where, and what flowers bloom what colors in what soils at certain times. In other words, there is more to getting your hands dirty in your backyard than beauty for beauty's sake or for watermelon pickles in December. There's bugs and birds and butterflies and amphibians and reptiles and mammals that all have a hand in what you do on your land, too. And when you start acting in a cooperative manner with the rest of the inhabitants on your property, that's when the learning *reallly* starts to close in on you, close to home.

It happens when you try to make your land more attractive to quail or rabbits or turkeys, or even butterflies or toads. And you suffer the embarrassment of failing in your efforts because you didn't *know* something—and you thought you knew it all. Those tidy beliefs about what is and what isn't natural quickly unravel, and it's not easy to pick up the mess.

But, in tinkering with our gardens, our farms, our waters and our open spaces, and facing those links, locks, and traps in natural systems in an effort to understand just exactly what *harmony* means, we learn something about what is really keeping this whole system purring along. And that kind of understanding makes you swallow once or twice, especially when you realize that you're not the one calling the shots in the whole operation, like you once were when you cultivated a garden for *yourself*.

The upshot of this whole learning process is that it might serve to make us a bit more street-wise. We may find ourselves scoffing at simple-mindedness; at those exquisitely simple promises of "Meadows-in-a-Can" or at people who promote the development of "unproductive" and "wasted" open space. It might also make us a bit more tolerant of change, be it the expensive loss of dogwoods and willow trees to the works of "invasive" beavers, or the unsightly nesting habits of herons near our homes. If we've learned our lessons well, we'll stop before we speak, and hesitate, taking the time to think this one through, because it will be all to clear that things are seldom as simple as they seem.

Volume 49 Number 5

VIRGINIA WILDLIFE

Cover
Bachelor's-Button *(Centaurea cyanus)*: photo by Jean M. Fogle.
Back cover: Poison ivy; photo by Larry R. Ditto.

4 **Digging For Solutions**
by Curtis Badger
Hunters can help restore small game habitat with some creativity and hard work.

8 **Practicing What We Preach on Amelia Wildlife Management Area** by Bob Gooch
Wildlife management areas are perfect places to demonstrate that wildlife management practices work.

12 **Amelia Wildlife Management Area**

14 **A Brilliant Disguise** by Nancy Hugo
Wildflower meadows may not *look* as beautiful as well-manicured lawns, but beauty is only skin deep. Look a little deeper.

22 **A Good Place to Land**
by Randall Shank
There are several ways to attract waterfowl to your property, and all of them help the birds survive.

26 **Old, Ugly, and Loved** by Irv Kenyon
An old field may be neglected and ugly, but to lovers of the bobwhite,it is a most prized place.

30 **Departments** Field news, family outdoors, habitat, and safety.

34 **Virginia's Wildlife** by Nancy Hugo
The River Otter

Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources

When I was growing up, I used to hunt quail near a power company right-of-way. It was perfect habitat. The right-of-way provided thick cover, plenty of wild food for the birds, and it abutted a soybean field that helped quail through the winter.

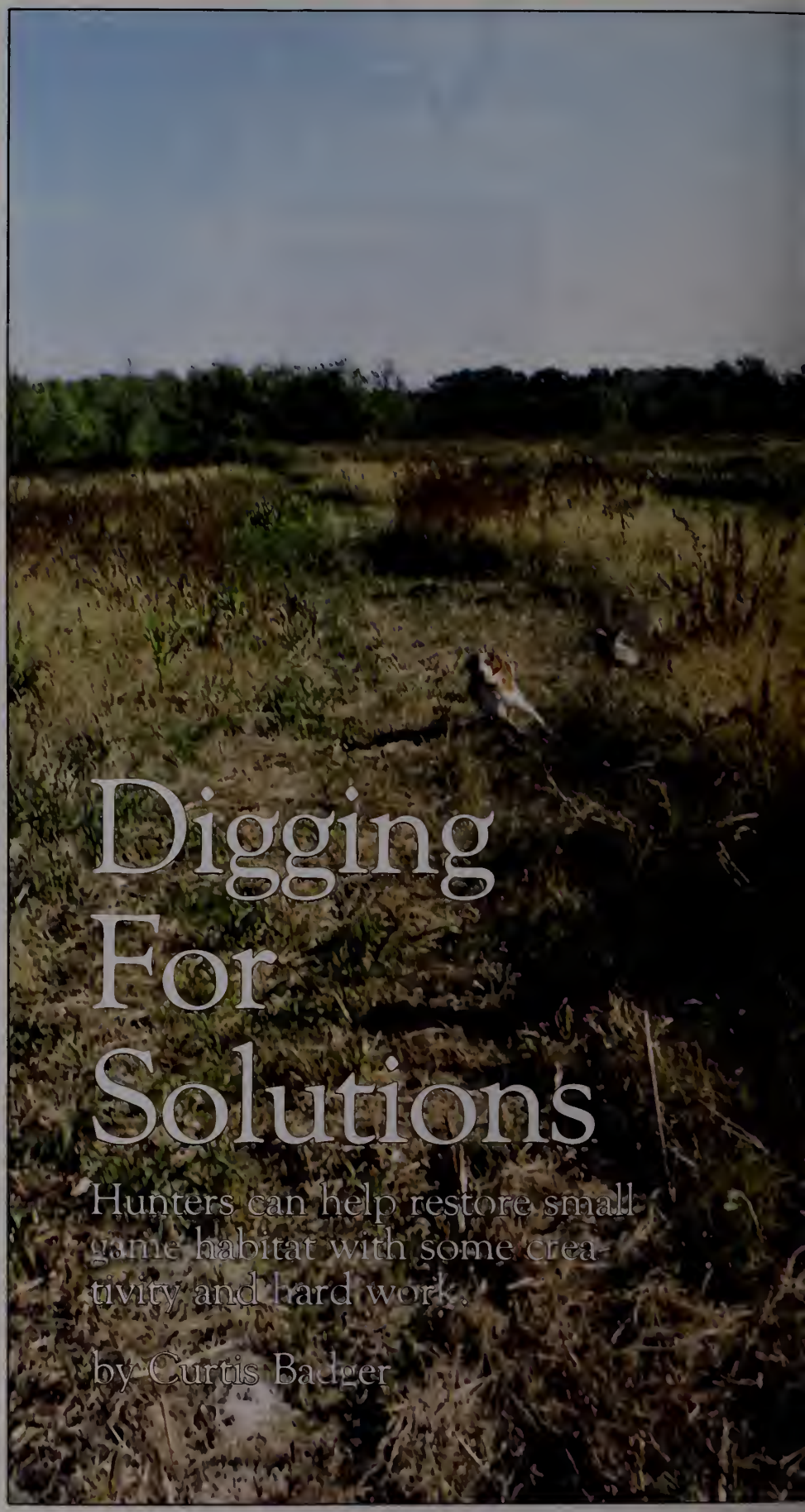
The birds seem to have lived well along the right-of-way. On brief after-school hunts it was not uncommon to find two or three coveys, most of which seemed large and healthy.

We recently bought some property near where I grew up, and over the Christmas holiday last year I hiked out to the old right-of-way to see how the quail had been faring since I'd been gone. Along the way I met a hunter, a man who had shared my youthful passion for right-of-way quail. "You're wasting your time," he said. "There hasn't been a covey in there this year."

The reason was clear to see. Although the right-of-way appeared to be good habitat—lots of briar thickets and low, dense, shrubs—the area was barren of wildlife. The perennial grasses were dead, but so were the chest-high pines, the greenbriar, the scrub cedars, bay myrtles, and all the other evergreens. The area had been sprayed with a herbicide during the summer, before the plants and shrubs had a chance to produce seed. As a result, the right-of-way was virtually sterile. I found a few berries growing in a briar thicket in a ditch which the spray truck had been unable to reach, but other than that, the cupboard was bare. No food, no birds. It was simple as that.

Or was it?

Fortified with a healthy dose of indignation, I pounced upon our local power company with both feet, demanding to know why in the name of everything holy they were persisting in destroying thousands of acres of wildlife habitat when the states, using hunter-generated Pittman-Robertson tax dollars, were fighting a losing battle attempting to restore habitat. Didn't they know that there were methods of keeping the oaks out of their transmission lines that would also benefit wildlife? Didn't they know that hunters, conservationists, and wildlife manag-



Digging For Solutions

Hunters can help restore small game habitat with some creativity and hard work.

by Curtis Badger

ers were coming up with creative solutions to solve this habitat loss dilemma?

The power company, however, was a step ahead of me, and although I was ready to sink my incisors into the ankle of a callous corporate giant, I emerged from a meeting with Delmarva Power's forestry manager reluctantly de-fanged. Could it be that this producer of megawatts was actually a friend to wildlife; indeed, a pioneer in an unconventional effort to improve wildlife habitat in Virginia? Or was their pro-wildlife posturing simply clever public relations?

Few people think of public utility rights-of-way in terms of wildlife habitat, but the acreages involved are astounding. Delmarva Power is not the largest of utilities, but it manages 17,000 acres of right-of-way, 6,000 of which are in a wooded habitat. That translates into more than 26 square miles of potential game and nongame habitat. Virginia Power, the Commonwealth's largest electric utility, maintains 42,000 acres in a wooded habitat. With a little imagination, that could be equal to managing an entire county for wildlife.

And is the restoration of this kind of land important? You bet it is. The recovery of Virginia's small game populations is dependent upon the restoration of proper habitat, and to do that, conservationists must look for unconventional solutions. For example, wildlife management agreements are being made between hunt clubs and owners of large tracts of land, such as paper companies. Various federal programs such as the Conservation Reserve make it appealing, indeed profitable, for landowners to manage land for wildlife. And what about public utility rights-of-way? What do the power companies have to say for themselves?

One day last winter I was given a right-of-way tour by Rick Johnstone, Delmarva Power's forester. In a power company four-wheel drive vehicle, we left the highway behind and took a close-up look at dozens of miles of

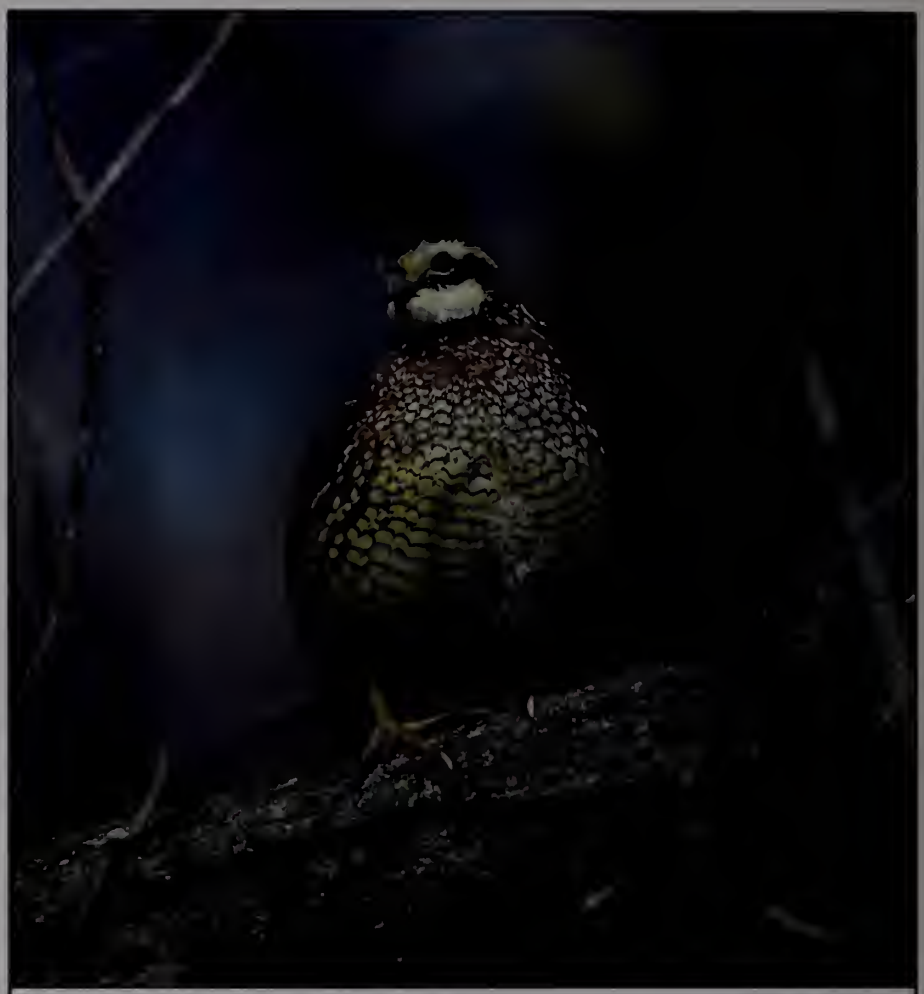
photo by Curtis Badger

rights-of-way. While we bumped along from pole to pole, Johnstone explained his management plan. "In the past, the rights-of-way weren't managed at all," he said. "They would be mowed every three years or so, but that was more upkeep than management. Several years ago we began phasing out the mowing operation, and we designed a plan that would benefit wildlife and in the long run reduce our maintenance costs."

Delmarva Power's plan goes like this: During the first year of the right-of-way management program, the area is sprayed with Roundup by a Radiarc spraying machine, which dispenses the herbicide at 20 gallons per acre. A few weeks later, a ground crew comes in and selectively sprays any plants missed by the Radiarc. At this point, the area is rendered virtually sterile, as was the right-of-way where I used to hunt. I had seen the area approximately six months after it had been treated, and it was indeed a wasteland.

A year after the spraying, however, seeds will germinate, and vegetation will reappear, said Johnstone. Then Delmarva sends in a ground crew to selectively spray the pines and hardwoods, the larger trees that would in time interfere with the transmission lines. The area is then left untouched for two or three years, then is reinspected for pines and hardwoods. If any are emerging, they are treated with a basal spray during the dormant season. From then on, little maintenance is needed, according to Johnstone, because the thick grasses and shrubs will not allow the pines and hardwoods to emerge.

"We encourage the growth of grasses and shrubs," says Johnstone. "We try to keep a 20-foot strip under the line in grass, then we have a scrub community of myrtles, blackberry, blueberry, greenbriar, sumac, Eastern red cedar, holly, swamp magnolia, dogwood, and any herbaceous plants. Beyond the scrub community is the woodland, so we have a three-tier habitat. The grass strip is good for insects and mice, and the scrubs provide food and cover for wildlife. Wildlife management is not our main business, but it happens that the management system most economical for our company also is very supportive of wildlife."



Hunters can help wildlife managers in the recovery of small game populations in Virginia, such as the bobwhite quail, by working with private landowners on creative solutions to restoring habitat; photo by Nell Bolen.

We toured several sections of rights-of-way, some that had recently been sprayed, others that had been in management for two years, others that were "graduates" of the program. These sections had thick stands of myrtle, greenbriar, and other herbs and grasses. Johnstone explained that the right-of-way that caused me to bare my fangs is in the early stages of management, but should be producing quail again in a couple of years. I hope he's right.

And what of other creative solutions for wildlife? Hunters are a romantic, sentimental lot, and most of us would like to see the clock turned back to 1915, when Uncle Al tended the corn with a horse-drawn plow and left lots of delicious hedgerows for us to walk through with our setters. But, those days are gone.

Still, there is hope. Hunters and landowners who are willing to do some research can find all sorts of possibilities in recent federal programs. The Farm Bill of 1985 created a potential wildlife windfall in that it encourages farmers to remove from production cropland that is erodible, and land that adjoins perennial streams and wetlands. By agreeing to a 10-year contract with the U.S. Department of Agriculture, farmers can actually be paid for managing land with wildlife in mind.

The Farm Bill created the Conservation Reserve Program (CRP), which is administered by local Agricultural Stabilization and Conservation Service (ASCS) offices. A landowner has three options with CRP land. Trees can be planted, the area can be planted in

grass, or a permanent wildlife habitat can be established. And, the best part of it is that the government pays for it.

The payment is established on a sealed bid basis and varies from area to area. The USDA sets an acreage goal, and landowners submit bids for which they would be willing to take the land out of production. The lower bids are accepted first, and they go up the scale until the acreage goal is met. Sign-up periods are announced periodically by the Secretary of Agriculture, and you can contact your local ASCS office for details.

Planting wildlife food is one way the hunter can play an active role in wildlife management: photo by Robert C. Simpson.

"We've been encouraging landowners to plant wildlife food and cover plots," says Pat Hall of the Soil Conservation Service on the Eastern Shore. The terrain on the Eastern Shore is decidely flat, and Hall says she hasn't signed up many farms under CRP that have erosion problems, but the peninsula is laced with small creeks and streams, and the CRP allows establishment of a 100-foot filter strip on each side of a watershed. The filter strips not only provide great wildlife habitat, but they trap sedimentation and agricultural chemicals before they can leach into the waterways. And, the CRP provides cost-sharing for establishing these buffer zones.

"The filter strips are the greatest thing going," says Hall. "The program pays the landowners to create wildlife habitat. It creates the opportunity to do something positive."

In addition, the Virginia Game Department, the Soil Conservation Service, and the U.S. Fish and Wildlife Service have developed an easy, low-cost plan for establishing wildlife habitat on CRP lands to complement a more elaborate wildlife habitat plan developed by Larry Robinson of the Soil Conservation Service. Both plans are available free from your Soil Conservation Service representative or the Richmond office of the Virginia Department of Game and Inland Fisheries.

The CRP provides all sorts of possibilities for hunters and landowners. Several of us last summer teamed up with a local farmer/hunter, and planted a set-aside field in sunflowers. The idea was to supplement the natural wildlife food sources, and to engineer a few successful dove hunts. The crop was not a great success, and although we did no harm to the doves, our philanthropy no doubt fed quite a few wild critters. Perhaps we'll try again this year.

Hunters who do not own land might consider similar cooperative ventures with farmers who are participating in the Conservation Reserve Program. Perhaps you can swap seed and fertilizer for hunting privileges. In this era of declining small game populations, a little creativity is certainly called for. Your state extension agent can provide advice, as can private conservation organizations such as Quail Unlimited (Box 10041, Augusta, GA 30903). This group, which has regional chapters throughout the Southeast, can give information and assistance to landowners interested in managing their farm with upland game in mind.

Large paper companies such as the Chesapeake Corporation, Westvaco, and Continental Forest Investments, Inc. control thousands of acres of land in Virginia. Most of the companies allow hunting on a permit basis, and most managers are willing to discuss plans to improve wildlife habitat on corporate land. "We've begun working with hunt clubs and other groups which lease our land," said Samuel H. Dyke of Glatfelter Pulpwood. "Often we will supply the seed if the lessors will plant food and cover crops. We also maintain roads and ditchbanks in low cover for wildlife, and our windrows provide good wildlife corridors. There are a number of management practices that give wildlife a little extra food and cover."

The increase in the number of hunting preserves in Virginia also is encouraging, since it gives wildlife managers a chance to evaluate the effectiveness of different food and cover plants. Discoveries made by preserve operators will perhaps be passed along to farmers who have land in the CRP. And the Conservation Reserve Program probably will encourage more landowners to open licensed shooting preserves.

A promising aspect of quail management, preserve operators have found, is that bobwhites are very quick to respond to positive changes in their environment. Tom Webb, who operates Eastern Shore Safaris in Jamesville, says that a turnaround in wild quail populations came almost immediately after he began planting field margins in food and cover strips. Webb believes that small changes in farming practices can make big differences in quail populations, and can do so quickly. Planting a buffer zone around fields in wildlife food is expensive, but effective, Webb says.

The good news now is that through programs such as the Conservation Reserve, landowners can manage their farms for wildlife, and make money doing it. Instead of bemoaning the demise of Uncle Al's hedgerows, hunters of the 1980s need to become activists if our sport is to survive. By working with major land managers such as utilities and paper companies, and by taking advantage of federal and state programs and assistance, hunters can pitch in with their own management schemes to improve small game populations in Virginia. □

Curtis Badger is director of publications for the Wildlife Art Museum of the Ward Foundation in Maryland and is a frequent contributor to Virginia Wildlife.

Practicing What We Preach—On

Amelia Wildlife Management Area

Wildlife management areas are the perfect places to demonstrate that wildlife management practices work.

by Bob Gooch

David Ellinghausen is a professional wildlife manager. And at only 33, most of his career stretches out ahead of him—interesting and challenging. Maintaining healthy wildlife populations in the face of ever-increasing human populations won't be easy as we approach a new turn of the century. That's the wildlife manager's challenge.

Nobody realizes that better than Ellinghausen, but charged with the supervision of the Game Department's Amelia Wildlife Management Area (WMA) in Amelia County, he has more pressing problems. Also challenging.

"Our immediate goal is to establish a model bobwhite quail management program," he says.

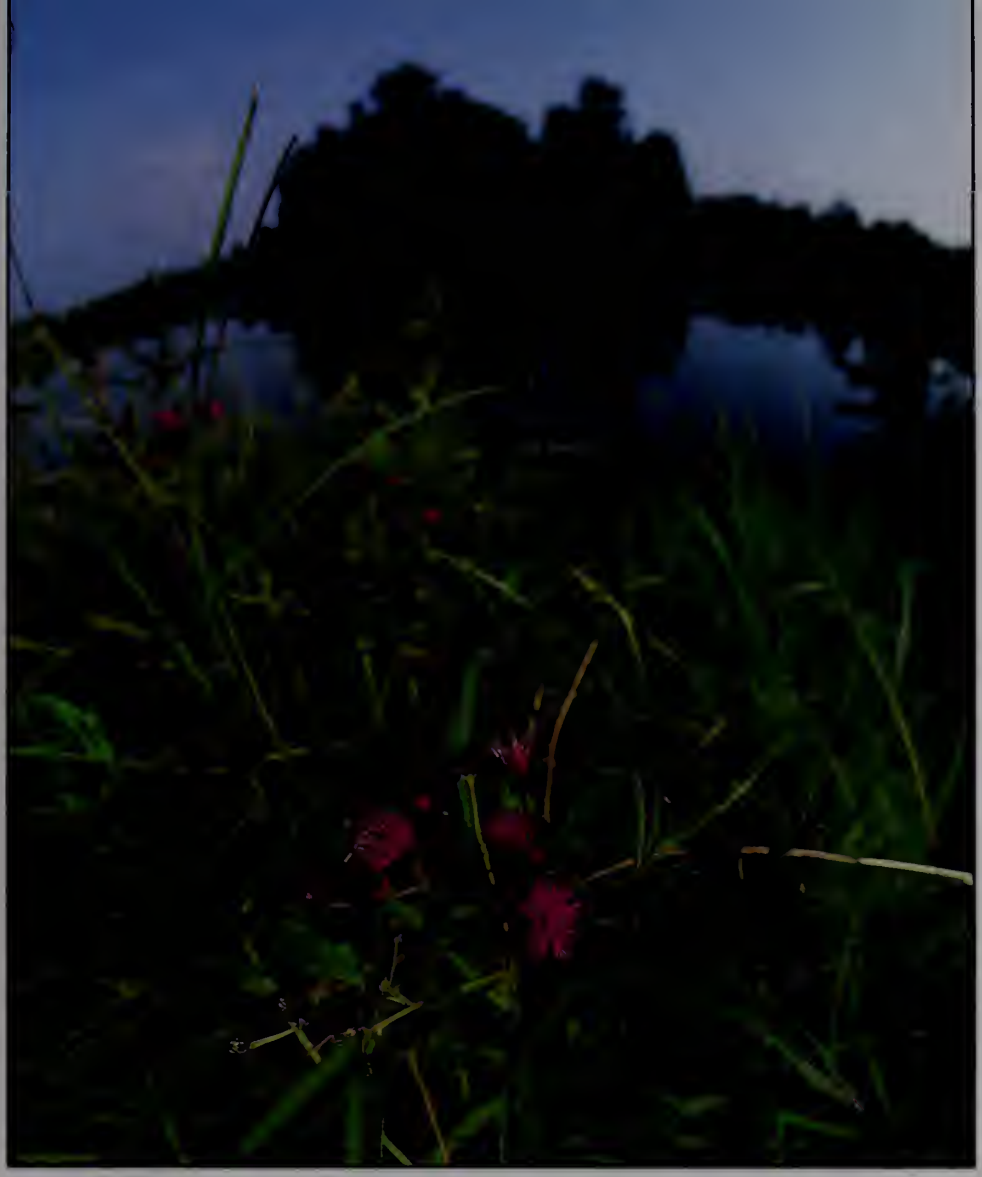
Hmmm. Sounds good, I thought as my gaze swept the big Southside Virginia wildlife management area. Here and there, patches of green winter wheat added touches of color to the rolling piedmont hills. Mostly those fields were brown and drab beneath a weak winter sun. People probably wouldn't consider this a pretty picture, but it's sure better for birds and other game than those manicured cattle and grass farms you see so much of today.

The Amelia WMA, all 2,217 acres of it, is located slightly northeast of Amelia Courthouse. The historic Appomattox River forms approximately three miles of its northern boundary, and across the river is Powhatan County.

"It's a unique area," says Ellinghausen. "It was once three separate dairy farms including 700 acres of open land. The first thing we'll do is plant hedges and break up the large open fields. Make them more attractive to quail."

Crab apple, dogwoods, Virginia pine and other woody kinds of shrubs and trees will form the hedges. "We'll clip the pines to make them spread."

The hedges will provide cover and protection for the birds in close proximity to wildlife feed plots. "The quail won't go out into one of these big fields to feed, so we'll plant borders of VA-70 (shrub lespedeza) along the hedges. It's a head-high plant and particularly good when snow is on the ground. The seedy crowns stick above the snow." Either farm crops or wildlife patches can be planted alongside the lespedeza borders.



Amelia Wildlife Management Area—where habitat management for wildlife comes first; photo by Lynda Richardson.

Ellinghausen is obviously enthused about this promising new program aimed at restoring the bobwhite to its traditional role of prominence among the game birds of Virginia. "We hope to show farmers and other landowners what can be done to help the birds."

But, that's not the only management plan the Game Department has developed for Amelia WMA.

"We also plan to step up our dove management plan," says Ellinghausen. "We've been leasing about 150 acres of management area land to a local farmer who left our share of the crops standing for wildlife, but we didn't renew the lease. So, we'll use much of that land for our dove fields."

Dove hunters should find better shooting this fall on the Amelia WMA. Four plots of five to 10 acres will be planted with alternating strips of corn, millet, milo, sunflowers, and wheat. Then, prior to the opening of the dove season in September, the plots will be bush hogged.

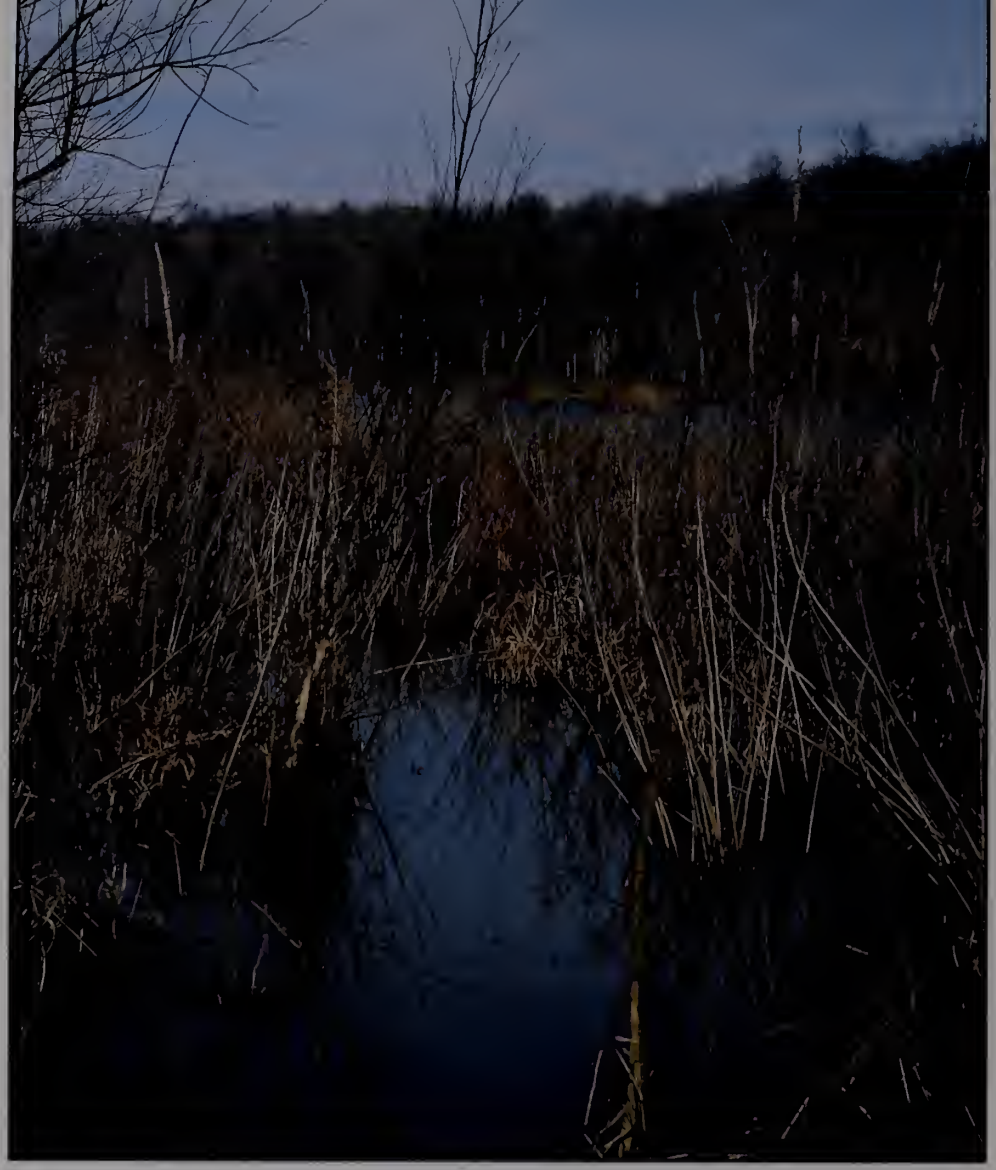
Another program the Department plans to emphasize is prescribed burning. "We're trying a rotation system of three to five years," says Ellinghausen, but it looks like we might settle on a three-year plan."

Burning encourages clover and other native species, all good for wildlife. Ladino and red clover are planted on the freshly burned areas, along with Korean lespedeza, a bushy plant that has been dear to the hearts of quail hunters since it was first introduced to farmers back in the 1930s. Unfortunately, it has since been replaced as a hay crop by fescue, a modern curse to wildlife. "We might also experiment with Japanese millet," says Ellinghausen.

The area manager and his small staff also turn the land occasionally to encourage growth of native species. White dutch clover is one, for example. "It's persistent," says Ellinghausen. "Doesn't have to replanted."

The dove fields, the quail program, and the prescribed burning help all kinds of wildlife, not just doves and quail. Burning and turning over the land creates tender new growth, succulent young shoots for deer, rabbits, and turkeys. "It also creates plenty of insect life for turkeys and other game," says the area manager.

Ellinghausen points out that it provides cover and food for other wildlife, not just game species. "All kinds of



The Appomattox River, a 100-acre lake and several wet-weather ponds are frequented by waterfowl at Amelia Wildlife Management Area; photo by Bob Gooch.

wildlife benefit, for everyone to enjoy. The hunters pay for it, however."

A firewood cutting program on the WMA serves to thin out hardwoods, and brings in a little income for the Department. Plots of hardwood are set off for the woodcutters who pay for the wood they harvest. "We mark the trees they can cut, and leave the den trees and the mast-producing hardwoods. It's a business for the cutters. They sell the firewood." Ten or 12 firewood sales are held each year. And there's a wildlife benefit—more squirrels. While the thinning creates browse for deer, it also protects those vital squirrel dens and encourages the growth of good mast-producing trees.

The Amelia WMA has a good white-tailed deer population. Hunters took 41 animals there during the 1987-88 season. "All of our management programs help support deer," says Ellinghausen. "Thinning hardwoods to create browse and leaving trees for mast, prescribed burning to create new growth of plants and shrubs, dove plots, and the quail program with its edges and feed patches are all beneficial to deer." And, the wildlife management area is surrounded by cattle and grass farms with rich fields of alfalfa. They help feed the whitetails.

Turkey hunters also did well during the 1987-88 season at Amelia WMA, bagging 10 of the big birds. The sparing of mast trees, prescribed burning which encourages native plant life, and wildlife patches which furnish food and attract insects all serve the turkey populations. And patches of winter wheat offer good grazing for the birds.

For many years, the Amelia WMA was used to grow seed for wildlife patches. The seeds were packaged and distributed among sportsman's clubs, youth groups, and landowners all over the state. While it was a successful program, it was also a very expensive one, and has since been discontinued.

The Amelia Wildlife Management Area also is a popular field trial site. And the season is long, running from the second week in August through the third week in May. Released birds are used to support the field trial work, as the dogs are judged on finding, pointing and retrieving birds.

The Game Department is currently cooperating with the Soil Conservation Service in experiments with various erosion-control plants at Amelia WMA. Species being tested include

Seventeen wood duck boxes have been put up at Amelia Wildlife Management Area, and Japanese millet is planted in the wet-weather ponds to encourage waterfowl use of the area; photo by Bob Gooch.

bobwhite soybeans, sweet peas, and switchgrass. And early assessment seems to rule out switchgrass as a wildlife planting because it is too thick. "It has some nutritional value if we could find some way to thin it out," says Ellinghausen.

Bobwhite soybeans, however, show promise. "They drop a lot of seeds that stay on the ground for a long time," said Ellinghausen as he dug into the soil and came up with several beans.

Ducks, primarily teal and woodies, use the Appomattox River, a 100-acre lake and a smaller one, several wet-weather ponds or catch basins, and beaver flowages on Amelia WMA. Hunting is allowed on all of the area waters.

"Our waterfowl management program enhances habitat. We have put out 17 wood duck boxes and plan others, and we plant Japanese millet in the wet-weather ponds during the summer."

A number of years ago a waterfowl management plan was started along the Appomattox River. Bulldozers were moved in to build shallow impoundments that could be drained in the summer for seeding and then flooded in the fall. Unfortunately, due to high costs, the project was abandoned before it was completed. Over the years, however, the shallow water provided by the aborted project has continued to attract ducks. The waterfowl hunting is fair.

"Summing it up, I suppose you could say that dove fields, feed patches, firewood thinning, prescribed burning, and our new quail program make up the heart of our management plan," says Ellinghausen.

He then reached into his desk and pulled out a map of the area with big sections blocked off in blue ink. He pointed at the blue space. "Lake Genito is a proposed water-supply reservoir. If it goes through, it will all but kill our long-range plans."

That's the kind of human encroachment that will challenge fish and wildlife agencies and their biologists to come up with creative and bold solutions as we move up on the turn of the century and into an uncertain future. □

Bob Gooch is an outdoor newspaper columnist and author of the newly published book, Virginia Fishing Guide. *He lives in Troy, near Charlottesville.*

Amelia
Wildlife Management Area

For those who may demand or at least look for variety in hunting, fishing and other outdoor diversions, Amelia Wildlife Management Area (WMA) has it all (almost) packed into a little less than 3,000 acres.

In a rolling Southside Virginia Piedmont setting, Amelia WMA offers the varied terrain and wildlife habitat typically associated with the somewhat old-fashioned cropland and woodlot farm. To round out the scene, there is the Appomattox River, a lake, and a pond.

Gently sloping cultivated and fallow open areas with woodland borders spell dove country. Quail and rabbits like it, too. Wooded river bottomland and wetlands above the lake head are wood duck habitat, and their dense understory of vegetation serves well as prime wildlife escape and winter cover.

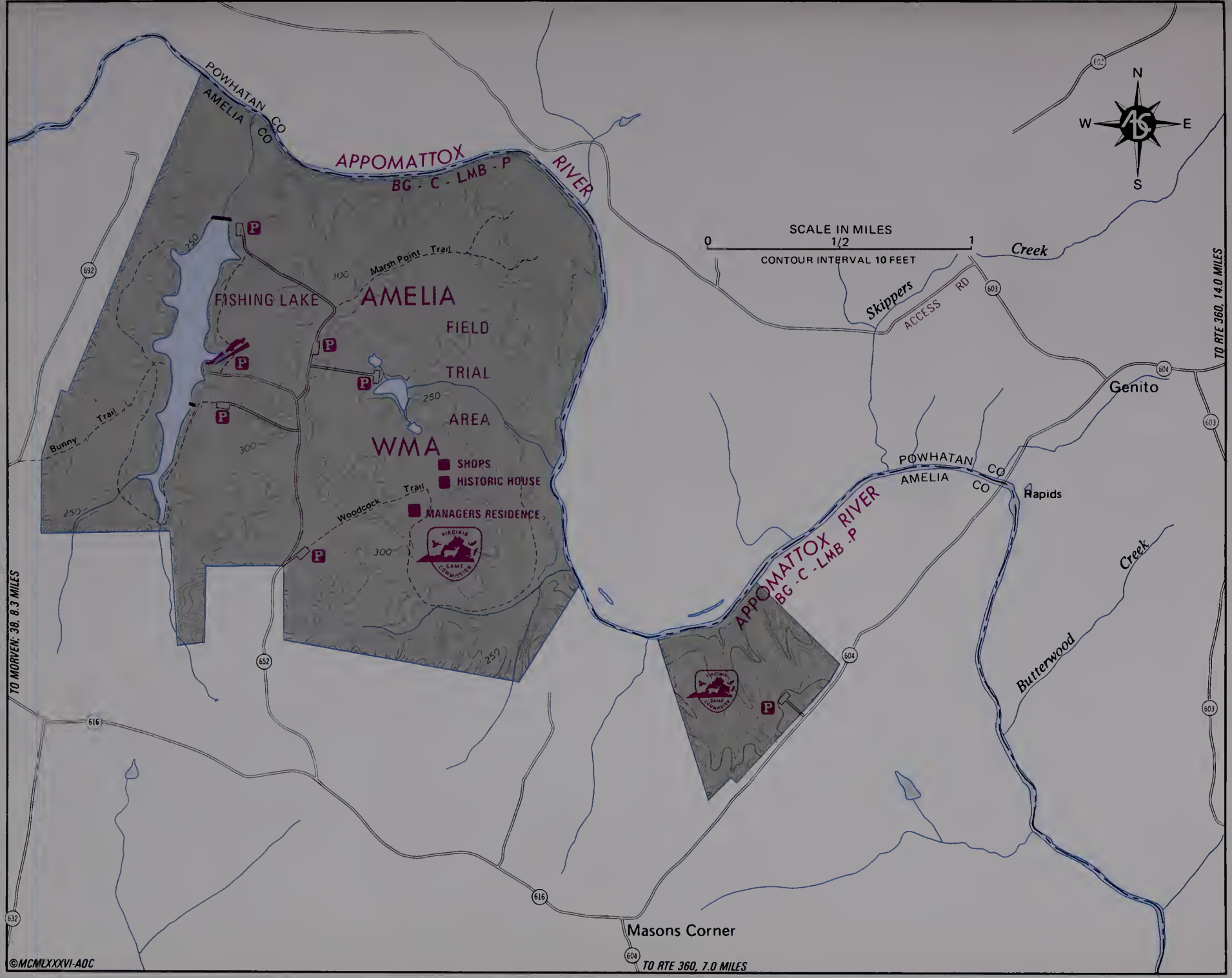
Woodland areas are extensive in acreages but not in depth, attractive to squirrels, but hardly deep enough to serve as home ranges for large numbers of deer and turkeys within the management area itself, although these species do use the area and are harvested on it each year.

But the area is adjacent to, and in fact bisected by, managed commercial forest land owned by Westvaco and the Chespeake Corporation. Hunters who have obtained permits to use forests owned by these corporations have available here a combined area with contiguous borders about half again as large as Amelia WMA itself.

As for fishing, the Amelia pond is stocked with bass and bluegill, while the 100-plus acre lake has these species and crappie and channel catfish as well. There is an area for hand-launching small boats. Electric boat motors may be used, but combustion engines are prohibited, and so is swimming. The lake is for *fishing*. It also may be used for giving water retriever dogs a workout or refresher course. And then, there is always the river.

Above all, there is lots of "edge," at the wildlife management area, miles of managed borders between adjacent fields, cropland and forest and woodlot, and between wetland, dry land, and water. The area is ideal for running bird dogs and rabbit hounds.

Amelia Wildlife Management Area lies along the Appomattox River west of the Richmond-Danville, Norfolk Southern Railroad track. It is not hard to find, but don't look for an interstate or state highway leading to it. The best route to use depends, of course, upon where one starts. Most visitors take State Secondary Highway 622 south from Flat Rock (between Powhatan and Midlothian) off U.S. Route 60; or State Secondary Highway 604 north and west from U.S. 360. Using SSH 622 (from Flat Rock), turn right on SSH 604. Where SSH 616 joins 604 (Masons Corner) take 616 west, then 652 north. Game Department signs will tell you that you have arrived. □


POWHATAN CO
AMELIA CO
APPOMATTOX RIVER
BG - C - LMB - P
FISHING LAKE
AMELIA
FIELD
TRIAL
AREA
WMA
SHOPS
HISTORIC HOUSE
MANAGERS RESIDENCE
Marsh Point Trail
Bunny Trail
Woodcock Trail
SCALE IN MILES
0
1/2
1
CONTOUR INTERVAL 10 FEET
N
W
E
S
Skippers Creek
ACCESS RD
Genito
Rapids
Butterwood Creek
Masons Corner
TO RTE 360, 14.0 MILES
TO MORVEN, 38, 8.3 MILES
TO RTE 360, 7.0 MILES
©MCMLXXXVI-AOC

A *Brilliant* Disguise

Wildflower meadows may not *look* as beautiful as well-manicured lawns, but beauty is only skin deep. Look a little deeper.

by Nancy Hugo

"Push 'em back, push 'em wa-a-a-y back." That's the fight song of the suburban landowner behind his lawn mower. "Beat those weeds back! Spread those chemicals down. Let's get this area under *control*!"

Across town, there's a quieter process going on. A meadow gardener is watching her native meadow. She doesn't understand everything she sees, but she's learning. Here, the dominant theme is wilderness, and the gardener knows she's only a small part of the process. Here, diversity is the order of the day and there's always something unexpected going on.

It may be too early to call it a trend, but at least there's change in the air. There are still plenty of lawn mowers whirring through suburbia, but there are a growing number of people wondering if there isn't a better way to maintain our open spaces. If one of the original purposes of maintaining an open expanse of lawn was to push back the beasts that might threaten us, we've succeeded. In fact, we've succeeded so well that we're wondering where all the wildlife has gone, and thinking we might like to at least invite back a butterfly or two.

Enter the wildflower meadow. The thought of being able to trade in Saturday morning behind the lawn mower for a lifetime of watching a wildflower meadow has enough appeal to make wildflower seed mixes some of the hottest items on the garden market. What they promise is lower maintenance than a lawn, value to wildlife, and benefit to the environment. All those promises wildflower meadows deliver. What they don't deliver—but

Opposite: Bee balm and evening primrose in a wildflower meadow; photo by Robert C. Simpson.

Resources

Great Spangled Fritillary Butterfly poised atop butterfly weed; photo by Charles Schwartz.

Books

Growing and Propagating Wildflowers, Harry R. Phillips, University of North Carolina Press, Chapel Hill, NC, 1985

The Wildflower Meadow Book, Laura C. Martin, East Woods Press, Charlotte, NC, 1986.

Organizations

Virginia Wildflower Preservation Society
P.O. Box 844
Annandale, VA 22003

National Wildflower Research Center
2600 FM 973 North
Austin, Texas 78725

Seed Sources

Passi Flora
Route 1, Box 190-A
Germantown, NC 27019
(919) 591-5816
Catalog free with stamped, self-addressed, legal size envelope.

Native Seeds, Inc.
114590 Triadelphia Mill Rd.
Dayton, MD 21036
(301) 596-9818
Free catalog.

Maver Nursery
Rt. 2, Box 265B
Asheville, NC 28805
(704) 298-4751
Wildflower and ornamental grasses catalogs, $1.00 each.

Plant Sources:

Sunlight Gardens, Inc
Rt. 3, Box 286B
Loudon, TN 37774
(615) 986-6071
Plant list free. Descriptive catalog $1.00

Natural Gardens
113 Jasper Lane
Oak Ridge, TN 37830
(615) 482-6746
Plant list free. Descriptive catalog $1.00

Native Gardens
Columbine Farm
Rt. 1, Box 494
Greenback, TN 37742
(615) 856-3350
Plant list free with stamped, self-addressed envelope. Descriptive catalog $1.00

We-Du Nurseries
Rt. 5, Box 724
Marion, NC 29801
(704) 738-8300
Catalog, $1.00

often promise, is instant beauty with no work and no maintenance.

"There are more cans in meadows than there are meadows in cans," says gardener Pamela Harper, referring to products like Meadow-in-a-Can. Unfortunately, opening a can and scattering a few wildflower seeds across a weedy field does not a ornamental meadow make. Not only that, but many commercial wildflower seed mixes contain seeds of wildflowers that are not native to our area and seeds of invasive and noxious weeds. Often the mixes create spectacular displays of exotic annual wildflowers that first year, but those flowers fail to reappear the next season. What may appear the next year are solid stands of aggressive naturalized species.

In Virginia, the wildflower meadows that will succeed best and require the least maintenance are those that best mirror our natural plant communities. Only purists would insist that our meadows include only native wildflowers (those that were here before the settlers arrived), but it makes sense to encourage natives whenever we can, since they are part of our natural history and best suited to our climate and soil conditions. Naturalized wildflowers (those from other countries that have settled here and reproduce here happily) will usually drop into our meadows uninvited, so there's really no need to plant them. Ox-eye daisy, Queen Anne's lace, and chicory are among these naturalized wildflowers.

It's important to remember, too, that our Eastern wildflower meadows are temporary stages in the natural process of plant succession, and left to her own devices, Mother Nature would turn our wildflower meadows into oak-hickory forests. Wildflower meadows—which we'll define as open grassy areas with wildflowers—are areas in transition. When a bare field is invaded by grasses and non-woody plants, we have a temporary meadow, but soon brambles and woody shrubs invade. Eventually the field will reach its climax stage—the forest—unless we intervene by mowing or burning. Even a low maintenance meadow, then, requires some maintenance, but far less maintenance than a lawn.

Choosing a site

There are suitable wildflowers for almost any location, but the meadow plants recommended here are for

sunny open areas. Most of them do best in well-drained soil. High fertility is not important since rich soils actually speed up the process of succession we're trying to hold back.

Size can vary with the ambitions of the gardener, but it's best to start small. Cole Burrell, who helped establish the wildflower meadows at the National Arboretum, thinks a quarter acre is about as small as an area can be and still have the perspective of a wildflower meadow, but you can begin learning the principles of meadow gardening in an area much smaller. My own experience with wildflower gardening began in an area about the size of a throw rug. It was there that I threw out a package of seeds— mostly exotic annuals as it turned out—but it was there, too, that I learned to recognize an emerging wildflower seedling when I saw one. If you don't know the difference between a dandelion and a daisy, you can't start too small. Effectively managing a meadow requires knowing the life cycles of the plants you're trying to encourage or discourage, and you can learn as much from a "pocket meadow" as you can from an acre of land.

Where possible, locate wildflower meadows in transition zones—areas at the edges of ecosystems where wildlife can have the best of both worlds. A meadow backed by woods or low shrubs provides a perfect situation for wildlife. They can use the cover of the woody plants as a staging area before making forays into the meadow. Unfortunately, nearby woods also provide a seed source for invading woody plants, so some meadow managers keep a strip mowed between the meadow and the woodland.

Even if you're not a landowner, you may still be able to find a site for a meadow. One of the most exciting meadow gardening projects going on in Virginia is in the Reston community where Environment Maintenance Manager Claudia Thompson-Deahl leads a small army of volunteers in establishing meadows on common ground around the Reston community. Pioneering efforts are also going on to establish meadows on industrial sites, in public parks, and in schoolyards.

Establishing your intent

Wherever your meadow is located, it's important to define the area and to establish your intent. Paths mowed around the meadow help to define the meadow as meadow and to distinguish it from unkept lawn. Peggy Fleming, Park Ranger and meadow manager at Rock Creek Park in Washington, D.C. walks in front of the tractors that mow around her meadows to make sure they follow the contours that she wants. Paths also provide access and make the meadow seem less threatening to visitors.

"Why are you growing that weed patch?" is still a question that pops up like honeysuckle around wildflower meadows, and any meadow gardener should be prepared to deal with it. Part of the problem lies in our tendency to think of tall grasses as weedy and to expect our meadows to look like postcards all year. They don't.

Sometimes the beauty of a meadow isn't apparent at first glance. I remember arriving at a meadow at the American Horticultural Society's River Farm near Mount Vernon one fall and thinking the meadow must not be at its peak. "What a shame it's not more photogenic," I thought. I must have expected a picture like those on the meadow mixes, because these mounds of small white asters didn't seem flashy enough.

But the more I looked, the more I saw—a purple aster towering above the white asters, an island of pink smartweed in a low place, the flash of an invading sumac in the distance, the sculptural forms of coneflower stems and pods. Not only that, but unlike the lawn around it, the meadow was animated. The asters were alive with bees and butterflies and the entire meadow buzzed. Learning to appreciate a meadow is like waiting for your eyes to become accustomed to light.

It also helps to remind skeptics that a meadow gardener is as concerned about weeds as a traditional gardener. A weed is a plant growing where you don't want it, and to a meadow gardener that means a plant that threatens to upset the balance of his plant community. In my fertile garden, the wildflower physostegia is a weed because it threatens to overwhelm my other plants; in my less fertile meadow where it grows less prolifically, I'm encouraging its growth. Honeysuckle, on the other hand is a weed both places, because it is so aggressive it could destroy the diversity and health of either system.

Education helped meadow manager Peggy Fleming convince skeptics of the value of the meadow gardens at Rock Creek Park. Fleming drummed up support for the park's meadow landscaping projects through staff education, letters to bordering neighbors, nature center programs, TV programs, and signs. "Where we don't mow, birds and butterflies go," read the sign made by one fourth grader. Volunteers enlisted to conduct bird, butterfly and insects surveys in the meadows became some of the program's most vocal supporters.

In some areas, local ordinances prohibit growing grasses above a certain height, and it's important to be aware of them—and try to change them—before beginning. "What's needed," says meadow landscaper Ted Browning, "is a new aesthetic. Beauty is the ability of a system to promote life. A meadow is a mosiac of habitat and life support systems. Complex is not necessarily tidy."

Soil preparation

Many gardeners who decide to take on a meadow think the first thing they should do is plow or till deeply to prepare the soil for wildflower seeds. Before doing that, consider Steve Davis's experience in his first attempts to establish the meadow gardens at River Farm. In 1981, Davis and his assistants plowed and disced a six-acre area before sowing a wildflower seed mixture. What they wound up with was six acres of pokeweed.

What happened to Davis and what often happens to meadow gardeners who till a large area and immediately sow is that tilling brings to the surface weed seeds that have lain dormant in the soil for years (pokeweed seeds can stay dormant in the soil for over 100 years), and these weeds can easily outcompete the wildflowers.

There are several strategies to avoid such a problem. If the area is small

NATIVE WI
for Virginia

Purple coneflower; photo by Robert C. Simpson.

Purple coneflower
Echinacea purpurea

Long-lived perennial. Excellent butterfly plant. Goldfinches love the seed heads.

New England aster
Aster novae-angliae

Good late season butterfly nectar source. Blooms late summer, fall. Strong color. Three to five feet tall.

Bee balm
Monarda didyma

Tolerates dry conditions. Butterflies, bees, and hummingbirds love it. Birds use seed. Blooms June-July. Spreads rapidly. Hummingbirds love red bee balm even more than bergamot, but it requires more moisture.

Bee balm; photo by Robert C. Simpson.

Butterfly weed
Asclepias tuberosa

Drought tolerant. Persistent. Blooms in summer. Seldom without a nectaring butterfly. Larval food for the monarch.

Butterfly weed; photo by Robert C. Simpson.

Joe-Pye weed
Eupitorium fistulosum

One of the best mid-late summer butterfly attracting plants. Terrific nectar source. Likes moist or set soil. Grows to 10 feet.

Blazing star
Liatris spicata

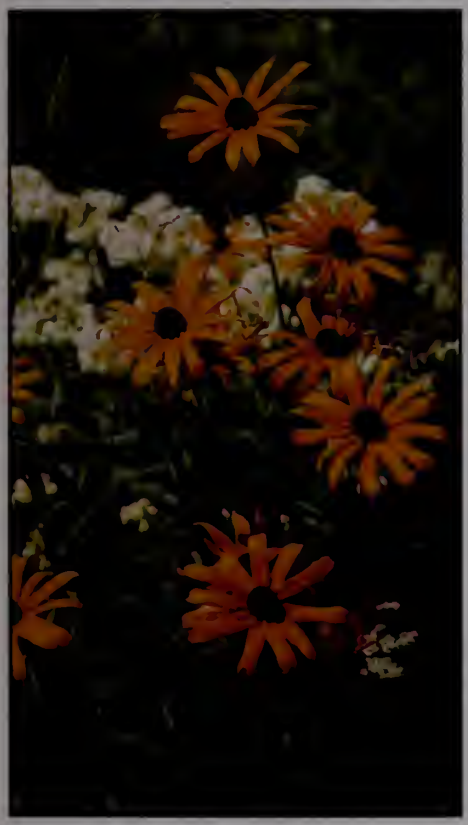
Tough. Can take dry soils. Long blooming period. Terrific butterfly attracter, especially skippers and swallowtails.

DFLOWERS

Meadows

Black-eyed Susan
Rudbeckia hirta

Short-lived perennial. Self-sows. Summer and fall bloomer. Attracts bees. Good cut flower.



Black-eyed Susans; photo by Robert C. Simpson.

Bergamot
Monarda fistulosa

Tolerates dry conditions. Butterflies, bees, and hummingbirds love it. Birds use seed. Blooms in June-July. Spreads rapidly.

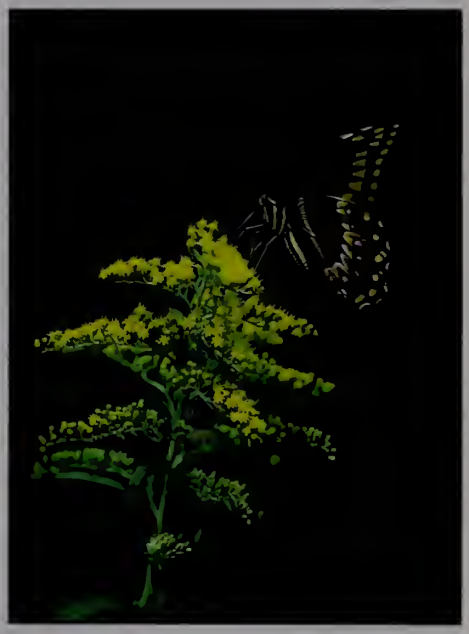
Sundrops
Oenothera fruticosa

Unlike some Oenotheras, flowers open during day. Birds use seed; nectar source for moths. Summer bloomer.

Coreopsis; photo by Robert C. Simpson.

Coreopsis
Coreopsis lanceolata

Tough plant. Long blooming period. Good nectar source for butterflies. Prodigious seed producer for birds. Can get invasive since it re-seeds.



Goldenrod with visitor; photo by Larry Ditto.

Goldenrod
Solidago spp.

Hearty. Good winter food source for birds. Excellent nectar source for insects. Try early goldenrod (*Solidago juncea*), an early summer bloomer.

Bergamot; photo by Robert C. Simpson.

Native Grasses

LITTLE BLUESTEM
(Andropogon scoparius)

Persistent, low maintenance perennial grass. Tolerates drought and poor soils. Of special value to small birds during winter when seeds of other plants not readily available.

BIG BLUESTEM
(Andropogon gerardii)

Adapts to wide variety of soils. Grows in coarse tufts to six feet. Provides nesting and escape cover for birds and small mammals in summer and winter. Seed as early in spring as possible.

SWITCHGRASS
(Panicum virgatum)

Vigorous, sod-forming native grass. Provides excellent nesting and fall and winter cover for pheasants, quail, and rabbits. Seeds provide food for pheasants, quail, turkeys, doves, and songbirds. Plant seed in April or May.

INDIAN GRASS
(Sorgastrum nutans)

Helps bind the soil, but spreads in moderation so won't outcompete wildflowers. Golden seeds beautiful in the fall. Provides food for many species of birds.

PURPLE LOVE GRASS
(Eragrostis spectablis)

Densely-tufted perennial. Succeeds on unforgiving sites. Tolerates poor, dry soils. Blooms July-October. Panicle sometimes breaks away as a tumbleweed.

enough and you know your weeds from your wildflowers, you can hand-pull weeds as they emerge. In a larger area, you can till several times (at 10-day to two-week intervals) to dislodge the weeds as they emerge. You can also till and then cover the area with black plastic or newspaper to smother the emerging weed seedlings. Some writers also recommend plowing, waiting for the weeds to emerge, then spraying with a herbicide like Roundup or Kleen-up. At this writing, there are organic herbicides coming onto the market that may make herbicide use more attractive environmentally.

There is another strategy, however, that will teach you more about meadow dynamics than any of the preceding methods, and it is this method that most of the experts now recommend. It doesn't satisfy most folk's craving for instant results, but it's more likely to succeed in the long run.

First, sit back and see what you have. Let the area you've designated as meadow grow without mowing it for a year. "If you can't wait that long, wait at least three months" says Cole Burrell. What most people discover is that they already have some valuable wildflowers and grasses growing in the area and that others will colonize there once mowing stops.

Once you know what you have, begin adding what you want and removing what you don't. In the area that I am now establishing as a wildflower meadow, that means removing honeysuckle, cedar seedlings, and plantain, and adding seedlings of purple coneflowers, coreopsis, bee balm and other wildflowers.

"Postage stamping" is what Ted Browning calls the process of digging up small areas within a grassy area and selectively adding wildflowers. "Plugging" is what other gardeners call it. What it means in operational terms is that you're digging or scratching up areas only about a foot square and plugging in wildflower seedlings. You can also scatter seeds on small islands of prepared soil.

The best time to plant seeds or seedlings is in the spring or fall. For many seeds, fall is the better of the two times because many wildflower seeds need a

cold period to break their dormancy. Whenever you plant them, seeds and seedlings need water to get established, so think about your water source when you're deciding where to locate your meadow. I can say with authority that carrying buckets of water a long way to wildflower seedlings gets old fast.

What to plant

Choose the plants that best suit your site by observing what grows well on similar sites. Consider exposure, available moisture, and soil type. If there is a penstemon growing in a nearby field, penstemon may be a good choice for your meadow. Remember that learning the dynamics of plant communities is part of the process of establishing a meadow, so good observation is as important as a good shovel.

Native wildflowers that do well in sunny Virginia meadows are described in the key. Joe Pye weed prefers moist soil, but coreopsis, butterfly weed, New England aster, purple coneflower, black-eyed Susan, blazing star, bee balm, goldenrod, and sundrops all do well in average, well-drained soil. They are perennial plants, and they are all available commercially. Buy them from reputable dealers who propagate their own plants. Never buy from dealers who collect plants from the wild, and never collect plants from the wild yourself unless you know their habitat faces imminent destruction.

Plants provide the quickest results in wildflower meadows, but seeds are less expensive. If you are buying a commercial seed mix, choose carefully. Most wildflower seed mixes contain wildflowers native to the East and Midwest, and although some companies offer regional seed mixes, even these are often filled with seeds of aggressive naturalized species. Choose the mix that contains the greatest percentage of seeds of plants native to our area and the greatest diversity of species. Avoid mixes that contain invasive exotics like *Lythrum salicaria*, a species that is crowding out native wetland species in the Northeast. Two companies that offer regional native seed mixes are listed on page 16.

An alternative to buying a seed mix is collecting seeds from the wild. In the Reston community, volunteers collect wildflower seeds as they mature, and Claudia Thompson-Deahl supervises the blending of a custom mix. The advantage of this method, apart from its obvious economy, is the awareness it instills in the seed collectors of each plant's life cycle—when do the plant's seeds mature? What do its seeds look like? Is it annual or perennial? A wonderful book that describes how and when to collect wildflower seeds and how to raise them is Harry Phillip's *Growing and Propagating Wildflowers*. Be sure, however, to collect seeds only from common species that are locally abundant and to leave seeds in sufficient numbers for the plant population to reseed itself. Collect only where you have the permission of the landowner.

Grasses are another essential element in wildflower meadows. Grasses provide the backdrop for meadow wildflowers and their seed heads are an important source of wildlife food. Most meadow managers recommend that a meadow be 50-80% native grasses. Unfortunately, most people are much less familiar with valuable native grasses than they are with valuable native wildflowers. Learn to recognize them so that you can encourage their growth and discourage the growth of sod-forming grasses and of spreading weed grasses like quackgrass and Johnsongrass.

Unfortunately, seeds of many of Virginia's best native meadow grasses are difficult to find commercially. The Maver Nursery in Asheville, N.C. is one of the best sources. Many meadow gardeners collect and sow seeds they gathered from the wild, but, as with wildflower seeds, collect only seeds of grasses that are abundant locally and whose distribution is widespread.

Soil and Water Conservation Service biologist Greg Moser recommends that the warm season grasses recommended here be sown in the spring. "It may take a couple of years for them to become established," he says. "A lot of people give up on them. Don't."

When Ted Browning is asked to establish a meadow on bare ground, he first establishes grasses on the site using seeds of commercially available grasses like Chewing's fescue, sheep fescue, and annual rye. Islands of native wildflowers can be sown among the grasses. Another way to deal with bare ground is to sow white or red clover which is both valuable to wildlife and beneficial to the soil; wildflowers can be added or allowed to naturalize among the clover.

Maintenance

Maintaining a meadow is a matter of keeping out woody invaders and noxious weeds. Some of the "super tramps" to expect trouble from include multiflora rose, honeysuckle, blackberries, poison ivy, and pokeweed. Annual mowing keeps most woody invaders in check. Some weeds may also require hand pulling or careful application of a biodegradable herbicide.

The best time to mow is in late March so that the stalks and seed heads of the wildflowers and grasses can provide visual interest, cover, and wildlife food all winter. Because of weed problems, some meadows will require more frequent mowing, but if you mow in late summer, be sure to wait until the wildflowers have set seed. A meadow should be mowed high—at 8-10″, and the best possible instrument is a scythe. (A lawn mower can't be set high enough; a bush-hog can.)

Remember that every meadow is different and that you can't make a meadow in a day. "A meadow has to go through some ratty stages," says Cole Burrell. "It may be three years before you see anything you like." Ted Browning asks his clients to give him four years to establish a meadow. "If I'm lucky, it will take two," he says.

That's a long time to wait for results, but if the making of the meadow is as important as the meadow itself, it is time well-spent. "You'll be most satisfied," says Cole Burrell, "if you appreciate your meadow as an ecological whole. The Meadow-in-a-Can craze may be short-lived, but meadow habitat as a viable alternative to a lawn is here to stay." □

Nancy Hugo is freelance outdoor writer who lives in Ashland.

A Good Place to Land

by Randall Shank

As part of the Atlantic Flyway, Virginia sits in the middle of an invisible highway utilized by America's major waterfowl species. Each winter, ducks and geese travel from Canada to points south. Depending on what they find upon their arrival in Virginia, they will either stay for awhile, or move on.

Many landowners across the Commonwealth have been successful in attracting waterfowl to their property, while others have yet to learn the secret of success. Being serious about doing something to bring waterfowl to the farm is probably the first requirement. It takes effort to manipulate habitat to suit the needs of wild ducks and geese.

The reasons for wanting to have ducks and geese on the farm are simple but somewhat elusive. There is a fascination in just watching some of nature's most beautiful birds take to the air. When the first honk of a goose is heard in the fall, it is as if a long lost friend has returned. Many landowners who have waterfowl on their property just plain like having the birds around. There is comfort in knowing that one's land is healthy enough to support a viable population of wildlife, and if the resource is managed properly, then hunting can take place on the property as well.

In addition, by providing suitable habitat for ducks and geese, a landowner can also help the species. Adequate food and shelter help these birds survive the brutality of winter so that they can go into the spring nesting season in a healthy condition.

It is no accident that some landowners have above average numbers of wildfowl on their property year after year. Providing adequate amounts of food, shelter, and water is the key to success. Management of habitat needs and regulating the amount of hunting on and near the wetlands are also major considerations.

Virginia has two distinct duck populations. While most of our ducks migrate to the Old Dominion from the North, the wood duck spends its spring, summer, and fall here, but most will head south with the first hint of cold weather. Since the wood duck nests in Virginia, the landowner may wish to concentrate his efforts on attracting this species to his land. With proper management, other kinds of ducks will follow.

Wood ducks nest and raise their young on secluded beaver ponds, swamps, and in hidden sloughs. These ducks need lots of solitude, but more importantly, they need nesting sites that are close to water. Dead hollow trees provide ideal nesting cover for the "woodie." Where there is a shortage of such dead hollow trees, the wildlife manager can make his own nest boxes to encourage wood ducks. Nest boxes should be 24 inches in height and 10 inches in depth. The boxes should be placed at least 3 feet over water. A metal collar should be fastened to the post to prevent predators from finding nests. Research has shown that ducklings raised in a nesting box will readily nest in a similar box when mature.

Nature's engineer, the beaver, has created thousands of small ponds and flooded areas all across the state. The beaver's activity has been a boon for the wood duck. The landowner should not routinely declare war on the beaver if it is damaging trees and waterways. Instead, assess the situation and if the benefits of more wildlife, including ducks, exceed the costs of a few lost trees, then leave this habitat-maker alone.

As the wood duck leaves Virginia for the winter, other ducks begin arriving from Canada. These northern birds are looking for food, water, and resting places with suitable shelter from predators and the elements. If the landowner can provide a combination of these three needs, then he can have ducks on his property during the winter months.

Some biologists have characterized winter as a time of slow starvation for wild birds and animals. It is a fight that is waged daily by wild creatures to maintain their metabolism and health

during the cold time of year. For ducks to come out of the winter having enough energy to fly north, and to be in good enough condition for breeding, an adequate winter source of food is required.

Like people, ducks have certain foods that they prefer over others. Food for ducks is tied to water. Ducks will gravitate to any water source, but

There are several ways to attract waterfowl to your property, and all of them help the birds survive.

Mallard drake; photo by Larry Ditto.

if there is not enough food nearby, they will leave. Preferably, any food for ducks should be under water. With the land that he has available, the landowner needs to evaluate whether or not he can provide these underwater foods.

A duck can eat about two pounds of grain each week. With adequate food, an acre of land could help feed as many as 75 ducks during their winter layover in Virginia. Flooded fields provide good food sources for ducks. For the best results, the flooded area should not be much over 15 inches in depth.

Brown top millet, Japanese millet,

and corn are excellent food sources for ducks. An annual, brown top millet should be planted in late June or early July at the rate of 20 pounds per acre. The seed can be either drilled or broadcast, and then lightly dragged over. About 500 pounds of 5-10-10 fertilizer will feed the plants during the growing season. After the planting matures, it should be flooded.

Japanese millet can also be planted in early July, and it will mature in about 80 days. In the deep South, it grows as a weed in the rice fields. It is best to sow it and then flood the field after maturity. Corn can also be planted for ducks. After the corn matures, it too should be flooded. Generally, deeper water is needed for establishing this as a food source.

All of the crops planted for wildfowl should not be disturbed at all. If the crops are displaced in any way except for normal harvest, the law interprets this practice as baiting. The area then cannot be legally hunted. It is best to confer with your local game warden and let him clarify with you the legality of any feeding practice if there should be any questions.

Managing the water resource may be the most difficult task for the landowner who wishes to have ducks on his property. The private wildlife manager must first look at his land and water sources, and then decide how he can best manage the resources he has for the waterfowl on his land.

As previously mentioned, the beaver can make it easier and relatively inexpensive to establish wildfowl food plots. If there is a beaver dam on the property with a substantial amount of water stored behind the dam, then with little consequence for the beaver, the landowner can create an outlet in the beaver dam to let water escape and thus lower the water level in the beaver pond. This can be done by tying three pipes together and inserting them through the dam. The beaver will not be able to figure out how to repair the hole in the dam, and once the level has fallen, millet can then be sowed in the beaver pond. When the grain matures, the pipes are removed from the beaver dam. The beaver will repair the dam, the pond will refill, and the duck's food source will be flooded.

Some duck-loving marsh plants which should be encouraged to attract waterfowl to an area are: duckweed (above), bullrushes (left), and smartweed (right); photos by Robert C. Simpson.

If there is a pond or lake on your property, you may wish to lower the water level in it to attract ducks. Simply drain the pond to a desirable level in July, and plant millet. Upon maturity, raise the level of the pond to flood the plantings.

All bodies of water have natural foods growing in and around them. Many of these plants are preferred by waterfowl, others are not. Some of the more palatable above water marsh plants include: barnyard millet, smartweed, bullrush, Walter's millet, and dayflower. In marshy areas, submerged plants eaten by ducks include: sago pondweed, widgeongrass, bushy pondweed, duckweed, eelgrass, and wild celery. All of these foods need to be encouraged.

After years of watching our neighbors from North Carolina and Maryland host enviable populations of Canada geese during the winter, Virginia has now become an important goose state. More and more Canada geese are wintering in Virginia with the vast majority of these geese stopping in the Chesapeake Bay area. Each winter, geese feed in peanut fields in the southeast part of the state, in the wheat fields of the middle peninsula and the Northern Neck, and on the Eastern

Shore. More and more Canadas are being seen also in Northern Piedmont Virginia in Orange, Albemarle, Fauquier, and Loudoun counties. And hunters are now starting to bag a few geese near Smith Mountain Lake.

Most of the geese in Virginia nest in Canada, and winter here. But there are many resident populations that have bred locally, and stay in Virginia all year long. The requirements to attract Canada geese to one's farm are not as complicated as trying to establish a second home for ducks. First, there must be flocks of geese passing through or using the area. If no major flocks have been seen in the region, then there is not much the landowner can do to bring wild Canadas to his land. If there are geese in the area, the landowner has several options.

Wild Canada geese are extremely wary birds. In the winter months they will be looking to graze on something like small grain, preferably wheat, or on remnant corn stubble. Geese require large fields where a watchful eye keeps a lookout for predators from a safe distance.

After feeding, Canadas prefer to rest on a calm body of water. A large pond or lake on the property is ideal. If there is an island in the middle of the pond, so much the better. The island increases the chances that geese may nest in the area and raise their young. The islands provide protection from foxes, skunks, dogs, and other threats of danger.

The landowner can spend countless hours and thousands of dollars to attract ducks and geese to his property, but if the hunting of these birds is not done ethically and prudently, he can forget it. A flock of Canada geese that has traveled thousands of miles with the sound of blasting guns beneath them knows what is safe and what is not. Geese need preserves and resting places where they can fed and rest and not be harrassed. They discover in a short period of time where they can find refuge.

As an example, along the Pamunkey River area, there are several farms that allow no hunting for Canada geese. Anytime during the winter, geese can be seen on these farms. There are neighboring farms that allow a limited amount of shooting. Geese can be taken from these fields, because what is hunted is regulated by the owners of the hunting rights in those fields. Most of the successful hunt clubs will only shoot at small groups of geese when they come into decoys. Large flocks are not shot at, not bothered, and allowed to land and feed undisturbed. On the farms where geese are shot at indiscriminately, the goose hunting is marginal at best.

Ducks differ from geese in that they spend most of their time on the water. Food sources in the water attract the ducks. When the landowner makes the effort to bring ducks into his property to hunt, he must realize what is considered to be baiting. Spreading grain in a pond or on a field to attract waterfowl to shoot is not only illegal, but it is simply wrong.

By planting summer annuals as a food source, however, or by encouraging the growth of vegetative types near water sources to provide food and cover for ducks, the landowner can do something for what has been a dwindling duck population nationwide.

Wildlife management is both a science and an art. With the help of proven scientific principles, landowners can plant the right species, and manipulate water habitats. But if the science and technical skill of growing wild food and cover is not blended with a sensitivity toward the stresses that the hardships of winter and heavy hunting pressure can cause on a local population of waterfowl, then the wildlife management plan is doomed to failure.

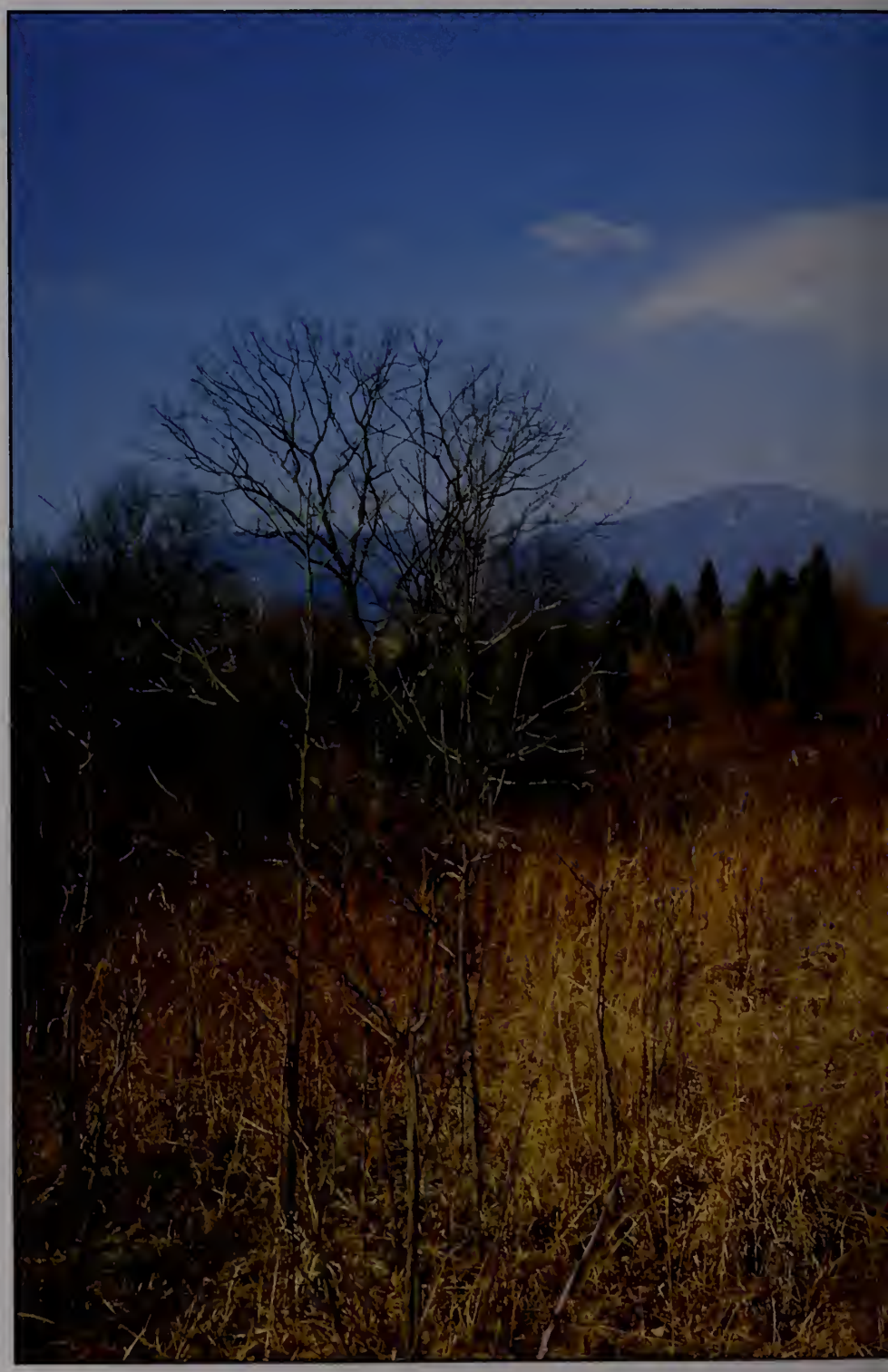
With the coming of the winter wind, ducks and geese give us a glimpse of the Northern wilderness that has remained unchanged over time. Man needs mallards, black ducks, and Canadas to remind us that we are closely tied to the wild places that they call home. And today, most of all, our ducks and geese need us for their survival. □

Randall Shank is an agricultural extension agent in King William County.

Old, Ugly,

by Irv Kenyon

An old field may be neglected and ugly,



Country music star, Tom T. Hall, sings of old dogs, and children, and watermelon wine. If I had such talent, I'd probably sing of old fields, bird dogs, and bobwhite quail.

Logically, my first verse should sing the praises of old fields, for these provide quail with places to grow and multiply. Moreover, anyone who has hunted over a pointing dog and anyone who can appreciate the spring and summer whistle of a bobwhite would surely join in the chorus.

Having followed bird dogs in pursuit of bobwhite for more than a few years, I've gained a great appreciation for old fields and other neglected pieces of real estate. For the quail hunter, the outer edges of crop fields, wide hedgerows, and even woods at times can be productive. Certainly, those who hunt timber land soon after it's been cut, have remarkable success. But in Virginia's northern Piedmont, it's been my experience to watch more dogs go on point, and to put up more quail in old fields than in any other cover.

More precisely, the old fields I have in mind are those that were formally used for agriculture and now remain idle. It is somewhat of a paradox that those fields commonly called "old," represent what ecologists term the *early* stages of natural plant succession. Through its early years, natural plant succession spans that period of time on nature's vegetative clock in which annual weeds, some grasses, and early arriving shrubs, vines and saplings are dominate. Too, it is in these early stages, and only these, that the bobwhite finds its place.

But, to describe old fields as, "former agricultural land, now in the early stages of natural plant succession," is a bit formal. Weedy, brushy,

and Loved

but to lovers of the bobwhite, it is a most prized place.

An old, ugly, and loved field; photo by Irv Kenyon.

briery; in a stage somewhere between cropland or grassland and a young forest—that's an old field.

Over the years, old fields have provided an abundance of quail habitat and have been the traditional quail hunting areas in much of Virginia. But, the sight of these areas is becoming less common. It is more than coincidence that with the decline in the number and size of such fields, both quail populations and hunting opportunities on farm land have suffered.

Old fields have disappeared for a number of reasons. For many former old fields, natural succession has taken them well past their early and attractive stages. These have simply outgrown their usefulness to quail. Our commitment to farm every acre of land possible has also transformed many old fields into crops or pastures. Then, there is the matter of appearance. For landowners, it is often difficult to resist keeping idle acres "clean." This is admirable, but the loss of quail cover and food is often the result. However, this dim view of old fields may perhaps brighten with a better understanding of their value.

But, why old fields? Why can a bobwhite not be content in a tidy, weed-free environment? We must understand that quail have adapted over centuries to fit a certain niche in the natural world. Bullfrogs need ponds, and quail need a vast array of low-growing, native vegetation. From a purely practical standpoint, the wide variety and distribution of native plants allow quail to more easily fill their daily needs. But the importance of plant diversity, among other features, goes beyond that which can be readily identified as food items or nest building material. More difficult to define, but unquestionably important, is the contribution of plant diversity to the

"setting" in which quail have long become accustomed and find their security. On agricultural land, old fields that represent that ideal setting.

Quail management recommendations often go into fine detail describing habitat development—a food patch here, a border of exotic shrubs there, and on and on. But habitat development is expensive and time consuming and unless followed to the letter, one or more of the quail's diverse needs are often overlooked. A more practical approach to encouraging or increasing quail populations is to preserve, maintain, or increase land in an old field condition.

While we cannot fully understand the quail's attraction to old fields, there are some unmistakable features that all old fields have in common. Overhead protection of standing vegetation and ground cover in which quail can "freeze" and easily blend into the environment are obvious qualities of old fields. In addition, quail seek cover which allows them to walk with ease and readily find food. Depending on past use and age, many old fields can provide an adequate litter-free surface. Where a dense growth of ground cover or the accumulation of plant litter encumbers quail mobility, the problem is solved with occasional discing or burning.

Completely bare ground, located in small openings or along field edges, is also important. Although it may not be a cheerful thought to a soil conservationist, eroded places can be a quail's delight, if the way they go about "dusting" is any indication. Also, for reasons best known to the quail, their nest sites are often located near bare ground.

Since quail habitat includes several cover types, the value of old fields are not necessarily limited by their size. Typically, a fall or winter covey will range over about 15 acres. Some old fields will meet this particular requirement alone. But smaller old fields should not be discounted. Where cropland, woodland, an overgrown thicket, or a generous field border adjoin, a small version of an old field may be just what's needed to make a habitat complete.

Without a doubt, old fields are the most practical and least expensive solutions to increasing bobwhite quail populations, and should be encouraged by all those who love the bobwhite—even if they are "ugly;" photo by Vinyard Brothers.

Many of the plants found in old fields do play a direct role in the bobwhite's well-being throughout the year. Most contribute to cover to some extent. Many produce food. Of significant value for cover are: grasses or broomsedge, low growing shrubs, and . . . honeysuckle! In this region, the importance of honeysuckle to quail for cover is unsurpassed. Where this naturalized plant fills a hardwood grove or the edge of a tree line, its use by quail for escape is particularly noticeable. Quail also often seek honeysuckle for roosting when weather is severe, and the plant's leaves and fruit provide some food.

Quail are also frequently found in the cover of annual weeds. This, however, is often related to other activities. Thin stands of low-growing annuals are often chosen for roosting during mild weather. But, probably, the most frequent use of annuals for cover is in conjunction with feeding. Annual weed seeds are high on the list of preferred bobwhite food items.

Usually, annuals are most abundant in fallow fields. These are fields that have recently been conventionally tilled (plowed or disced), probably cropped, and have remained idle. These are the "bread-baskets" of old fields. Often produced in large quantity are seeds of ragweed and beggarweed, both high quality and preferred quail foods. I see partridge pea less frequently, but it is a highly regarded quail food and appears in fallow fields. While not native, annual lespedeza has naturalized well. This, another quail favorite, will often appear during those years immediately following cropping or other disturbance of the soil. Pokeweed, recognized by its juicy, purple fruit during summer and fall, can also be an important food through the winter when the seed is dry and extremely hard. Its use by quail was brought to my attention by veteran hunters of "clearcuts," but pokeweed is also prominent in many idle agricultural fields.

The food-bearing plants found in old fields are not limited to the annuals of fallow field species by any means. With age, old fields are often invaded with perennials, such as blackberry and dewberry, which provide fruit in season. Grass seeds and greens are important summer plant foods. Where young hardwoods take claim to an old field, these typically become the soft fruit producers: cherry, dogwood, persimmon and sassafras. Again, honeysuckle, and grape and greenbriar are food-producing vines found in old fields in the latter stages.

"In this region, the importance of honeysuckle to quail for cover is unsurpassed."

In order to keep or make old fields more attractive to quail, some maintenance should be applied occasionally. The value of fallow ground has been recognized. This condition can be easily duplicated by periodic plowing or discing. In many old fields, broomsedge will eventually form a spongy carpet. This is a sign that discing or burning might be in order. Abandoned sod fields can be converted to good quail habitat much more quickly and reliably if disced or burned. Where old fields become "over-grown," particularly with pines or cedars, at least a portion of these should be "set-back."

The objectives in maintaining native vegetation for the benefit of quail are threefold: 1) to eliminate or reduce the amount of "over-grown" vegetation which has little benefit and is crowding out more desirable plants; 2) to reduce on the ground the mat formed by densely growing plants and accumulated plant litter; 3) to stimulate seed germination and encourage the growth of annual plants, particularly those that are producers of food favored by quail.

Plowing or discing (usually discing) and burning can be used to meet any combination of the three objectives. These are considered the most desirable techniques used to manage native vegetation. Adjoining fields or large fields should not be maintained in exactly the same condition. Some fallow ground, some grassy/ brushy acres, and even a stand of "old field" (Virginia) pine for escape cover, presents the ideal "setting."

Yes, I like old fields. They have provided the background for a puppy's first point and food and cover for the covey that "held." I know that where I hear the pleasant, summer sound of "bob-white," there's probably an attractive old field nearby. Yet, I'm aware that old fields exist largely by chance and seldom by design. To suggest a deliberate effort to preserve, maintain or increase old field conditions runs against the tide of most current land use and recommended uses. But there is no denying the close association of quail with old fields, or the impressive contribution these areas have made to quail habitat. Where allowed, old fields will continue to provide an essential need. I may like old fields, but the bobwhite? He's devoted to them.

Ed. Note: Providing and maintaining native vegetation is discussed in detail in the book: The Bobwhite Quail: Its Life and Management, *by Walter Rosene. Brief, but with a wealth of maintenance information is* Bobwhite Quail Management: A Habitat Approach, *by J. Larry Landers and Brad S. Mueller, published by Tall Timbers Research Station, Tallahassee, Florida and Quail Unlimited. Bobwhite life history and management is presented in summary in* Virginia's Bobwhite Quail, *published by the Virginia Department of Game and Inland Fisheries, Richmond, Virginia.* □

Irv Kenyon is a wildlife management area supervisor with the Game Department .

Field News

The Piping Plover Needs Our Help In Virginia

The piping plover is a federally endangered and threatened species. There are approximately 100 breeding pairs in Virginia, with less than 500 pairs along the entire Atlantic Coast.

Plovers are extremely sensitive to disturbance during their nesting season, which lasts from April through August. In Virginia, this small, pale shorebird nests on high shelly beaches, and disturbance from human activity is the leading cause of nest loss and abandonment. Beach visitors may unknowingly cause the adults to leave their nests, leaving the eggs exposed to predators such as herring gulls.

The Virginia Department of Game and Inland Fisheries has launched a conservation program with funds from its Nongame and Endangered Species Program to help this bird survive its nesting season on our coasts. Critical nesting areas will be posted, and we ask that you obey these protective signs. Remember that *your* behavior will affect the survival of this species.

For more information about this rare bird that we are so lucky to have on our coasts, write the Game Department, Nongame and Endangered Species Program, P.O. Box 11104, Richmond, VA 23230-1104.

Educational Exhibit Opened

Thanks to the Game Department's Nongame and Endangered Species Program, Maymont Foundation in Richmond now has a brand-new wetlands exhibit, designed to increase the public's awareness of the importance of wetlands. With funds from the Game Department's tax check-off program for wildlife in Virginia, Maymont Foundation has constructed an exhibit in its nature center, located on the popular 100-acre Maymont Park in the middle of the City of Richmond. It is designed to educate the public on the value of nontidal wetlands, including freshwater swamps, bogs and marshes.

The importance of wetlands to the food chain, in the water filtration and purification process, and in providing wildlife habitat is clearly addressed in the exhibit. A "pond" area, the exhibit's focal point, houses Maymont's fish, reptiles and amphibians. Nearby, a tree cage is home to captive owls. A reconstructed beaver habitat utilizes mounted specimens to illustrate the importance of such areas to different wildlife species.

For more information on this and other projects funded by the Game Department's Nongame and Endangered Species Program, write: Virginia Game Department, Nongame Program, P.O. Box 11104, Richmond, VA 23230-1104. □

Family Outdoors

Spike Knuth

My first encounter with wild asparagus was an accident. My family and I had spent a frustrating, empty-stringered morning of fishing and were on our way to a small park for a picnic lunch. While enroute on a small back road, we passed a man walking a fence-line carrying a wire-handled basket—the kind that tomatoes were commonly packed in. As we went by, my jaw dropped. In the basket were long, green spears of freshly picked asparagus.

After lunch, we just had to go back and investigate some of the fence-lines in the area. It was already quite late in the growing season, so we merely looked for the "feathery," grown-out plants and searched the area around them for fresh shoots. My wife and I along with our sons, then three and five, and even my mother-in-law (believe it or not), learned how to find and pick the tender shoots of green. I'd walk along with the boys, spot an old stalk and excitedly say to them, "let's look around here, boys," and while I swept the tall grasses and other plants aside, I'd let them find and pick the tasty treasure.

The following spring we learned to look for the old, dry asparagus stalks of the previous year, although they are often knocked down by weather and natural deterioration. Probably the easiest way to learn where to find asparagus is to begin your scouting in late June and early July. At this time, most asparagus is full grown. Keep notes as to where you see the bushy tops, then go back the following spring and watch for the old dried stalks. You might even consider marking the best spots on a county map for future reference. Once you've spent a year scouting various side roads, you can learn where these areas are and maybe come up with some new ones yourself.

Morning is the best time to pick, since new shoots become a little tougher and drier in the heat of the day. They also become tough or rubbery if they sit around too long after picking. As in a garden, the larger or medium-sized stalks should be harvested, leaving the thinner stalks to grow out, nourishing and strengthening the parent plant. The stalks ideally should be gently broken off as low down the stalks as it is tender.

The asparagus is a perennial herb, originally native to the Mediterranean, the Crimea and Siberia, and is listed as a member of the lily family. It has a fern-like, feathery top when grown out, and a strong, horizontally-spreading root system that is sometimes five or six feet across and six feet down. It is interesting to note that there are both male and female plants. The male plants have colorful tiny flowers, while the female plant develops small, pea-like, red berries. In autumn, the grown-out vegetation often turns a brilliant yellow-gold, at which time their location can also be pinpointed.

Wild asparagus grows in a variety of soil types, but it does best in rich, sunny, well-drained areas in cooler climates where winters are cold enough to give the plants the dormant season they require. It is found mainly along fence-lines, near old abandoned homesteads and sunny woodland edges. In Virginia, it is probably more common in northern Virginia and in the higher elevations, although it is commonly found in the Piedmont as well.

A word of caution is advisable when going out to pick wild asparagus. State, local or park laws may prohibit foraging along roadsides or in certain woods and fields. The roadside right-of-ways are not always public property. In some cases, the wild-growing crops alongside the road belong to the landowner, in which case it would be proper as a matter of courtesy to get permission to harvest them. If you see bushy stands of asparagus, it's a good bet that local residents are cutting and harvesting them on a regular basis. Use some discretion and check state and local laws and feelings on the matter.

Our meal the evening of that first encounter was lacking the fresh fish we had originally sought, but a rather plain supper of hamburgers became a gourmet's delight with a hot, butter-soaked side dish of steamed, wild asparagus—a real spring treat. □

Habitat

For you and wildlife

Dogwood

It may be news to most people that Virginia's official beverage is milk, her official dog is the American foxhound, and her official shell is the oyster, but everybody knows and loves our state bird, the cardinal, and our state floral emblem, the dogwood. They're a take-your-breath-away pair.

If there ever were a tree that proved we give up nothing in beauty when planting for wildlife, the dogwood is it. It's one of the most beautiful—if not the most beautiful—ornamental tree in Virginia. It's also one of the easiest to grow, and one of the most valuable to wildlife. One authority on wildlife food habits lists *Cornus florida*, our native dogwood, among the top 10 wildlife foods in our area; another cites over 100 species of birds and mammals that eat its glossy red fruits. Cardinals love it, as do cedar waxwings, robins, thrushes, and grosbeaks. Dogwoods are also popular as nesting sites, and the leaves offer food for butterfly caterpillars.

You also can't do much better than a dogwood in the landscape, because the trees are beautiful all year long. In the spring, their white blossoms illuminate the woods (Virginians count their blessings by this light). The dogwood's pointed oval leaves are also beautiful in the spring and summer and they provide excellent cover for birds. Red foliage and clusters of showy red fruit decorate the trees in the fall, and even in winter, dogwoods have ornamental value. Their horizontal branches create a layered effect, and the upturned twigs hold the round flower buds aloft like promises. There is also almost always a bird's nest in the winter branches of a dogwood, allowing us a peek into the home of the red and crested.

The blossoms of native dogwoods are occasionally pink as well as the familiar white or greenish-white, but what we think of as dogwood flowers aren't really flowers at all. Like the red "petals" of the poinsettia, the white "petals" of the dogwood are actually bracts or modified leaves. The plant's real flowers are the clusters of greenish-yellow blossoms in the center of these pseudo-petals. Dogwoods in my neighborhood are as predictable as income tax—they're always blooming on or around April 15, but I've read they can bloom as early as March and as late as June in Virginia.

Dogwoods are particularly valuable in the home landscape, because they don't get too big. The largest dogwood in Virginia, on the grounds of the Chesapeake Memorial Park, is only 40 feet tall. Under the right conditions, they also live to a ripe old age, and a dogwood that went down in a storm at Mount Vernon in 1977 was estimated to be almost 200 years old.

The wood of the dogwood is particularly hard, strong, and smooth-grained. Historically, the hard wood was used for tool handles, golf club heads, ladder rungs, and mallet heads. Dogwood also made fine shuttles for textile weaving, since the smooth wood has little wearing effect on thread.

Legend has it that it was the wood of the dogwood that was used to make Christ's cross and that the notches in the flower "petals" represent his wounds. The dried inner bark was reportedly used by the American Indians to treat fevers, and they derived a scarlet dye from the root bark.

Wild dogwood in Augusta County; photo by K.S. Brooks.

Dogwoods bought balled and burlapped are easy to establish, but I have had little success moving the ones that pop up in the yard. A gardener in Suffolk swears by this method of moving them: "Select a tree with a trunk smaller than a broom handle. Dig it up and plant it, cutting it back to one foot from the ground. Many shoots will spring up but select the strongest and cut all the others back. Keep well-watered the first summer." It's worth a try.

Some experts will tell you that dogwoods prefer sun, but will tolerate shade. Others will tell you they prefer shade, but will tolerate sun. Take your cue from where they grow best in the wild: they are understory trees, usually growing in the open shade of taller deciduous trees in fertile, moist but well-drained soil. They are not the trees for hot, baked median strips, and although you could point to some that seem to flourish under those conditions, I could point to more that have shriveled up and died. They like acid soils and benefit from an acidic mulch like pine needles.

Of all the investments we might make in the home landscape, planting a dogwood is one of the most rewarding. It takes only a little time, money, and effort to establish a dogwood. The cardinals are free.—*Nancy Hugo*

Safety

Upcoming Hunter Education Classes

Below are the hunter education classes that have been scheduled as of our press date. These 10-hour courses satisfy the mandatory hunter education requirement for all new hunters and those 12 to 15 years old. Contact the Richmond office of the Game Department at 804/367-1000 for more information and updates on any additional courses.

District 1—Central and South Central Virginia
Location: Powhatan County
Date: May 21 & 22
Contact: Deana Coffey
Phone: 804/598-5640

Location: Baker Elementary School, Henrico County
Date: June 2, 9 & 16
Time: 6:30 p.m. - 10:00 p.m.
Contact: Belmont Park
Phone: 804/262-4728

District 3—Southwest Virignia
Location: Northwood Middle School, Smyth County
Date: May 14
Time: 8:00 a.m.
Contact: Ed Dempsey
Phone: 703/783-4860

District 5—North and Northeastern Virginia
Location: Bull Run Shooting Center, Fairfax
Date: May 9, 10, & 11
Time: 7:00 p.m. - 10:00 p.m.
Contact: Earl Hodnett
Phone: 703/527-3464

Location: Fairfax County Animal Shelter
Date: May 10, 11 & 12
Time: 6:30 p.m. - 10:00 p.m.
Contact: Barry Lape
Phone: 703/830-3310

Location: Izaak Walton Park, Leesburg, Loudoun County
Date: May 20 - 7:30 p.m.- 10:00 p.m.

May 22 - 1:00 p.m. - 5:00 p.m.
Contact: C.J. Clark
Phone: 703/777-8926

District 6—Tidewater Virginia
Location: Northwest River Park
Date: May 10-12
Time: 6:00 p.m. - 9:30 p.m.
Contact: Allen Crowder
Phone: 804/421-7151

Trailering

It was summertime, and going down the highway, I saw a boat come loose from its trailer and bounce along the highway. Later, a friend was pulling his boat and all seemed well until he rounded a sharp curve, saw a stalled car in his lane and another vehicle approaching in the only other lane. He applied brakes, but his trailer swerved to the right, went over a bank and pulled the towing automobile with it. There is no doubt that trailer-towing can be hazardous.

The average passenger car was made to carry people, not to pull heavy trailers. Starting with the 1980 models, the average passenger car is able to pull only about 4,000 pounds maximum without special equipment. Except for specially equipped utility vehicles, such as a van or pickup truck, you should not attempt to tow a trailer which is heavier than your car.

Special equipment means non-slip differential, heavy duty cooling system, heavy duty flasher, heavy duty suspension, oversize battery and alternator, special wiring, special rear axle ratio, and larger tires and wheels. These modifications could be made to almost any tow vehicle, except for some compacts or subcompacts.

Trailers are rated according to capacity, so get a trailer which has a rating which will permit you to carry your boat safely. In addition, get one which will support your boat properly and prevent hull damage. When your boat is in the water, every square inch is evenly supported by the water in which it sits. To prevent sagging, warping or other hull damage, the trailer must support all portions of the boat, especially any part where heavy equipment is located.

Knowing of the bad things which can happen makes me worry a lot when I drive behind a boat trailer. I wonder whether the bow and stern tie downs will hold. Hundreds of times I have told boaters not to depend upon the winch-line to hold the bow in place. In addition, a bow tie-down should be used. Safety chains at the point where the tongue fastens to the tow vehicle should cross under the hitch in such a way that they will hold the tongue should the ball-hitch fail. Chains should be long enough to permit the trailer to turn easily, but not so long that they drag.

Trailer brakes are required on trailers above a certain gross weight. To insure that your trailer is in compliance with the law, check with your state police or motor vehicle department. Never forget that you have a boat behind you. A frequent rear view mirror check is important. Start slowly and drive at reasonable speeds. If you feel that you must pass another vehicle, get by as soon as practicable. Listen for unusual sounds, and if the handling seems at all unusual, pull over and check. Maintain a greater than usual following distance. With the trailer, you need much more room to stop. Practice backing. No one can adequately describe the technique. You have to do it over and over again until it becomes second nature.

Be careful this summer, and make sure you drive safely!—*William Antozzi, Boating Safety Officer*

V·I·R·G·I·N·I·A'·S

The River Otter

by Nancy Hugo
photo by Lynda Richardson

W·I·L·D·L·I·F·E

"They're beautiful."
"I love 'em."
"They're magnificent."

Rivermen tend to feel about river otters the way seamen do about dolphins; there's the same sense of good fortune in spotting one, the same sense of kinship with the animal.

The first time I saw a river otter, I was sitting on the bank of the James River in Buckingham County with my family. It was a warm February day and we were just fiddling in the sand when my daughter heard what she thought was a cat and my husband heard what he thought was a bird. We looked up to see two little heads above the water, then arched backs, then heads again, then the two animals carrying on a conversation as they chirped and rolled their way downstream.

That's all there was to it. A three-minute experience, but it left us spellbound for hours. There's something wonderful about river otters that even people who've never seen one seem to sense. Children's stories, Walt Disney, and the antics of river otters in captivity have probably contributed most to our perception of river otters as fun-loving and sociable. Even the scientific literature is full of anecdotal accounts of otters dropping and diving for rocks and shells, tobaggoning in snow, and sliding down mud banks for the joy of it. I almost didn't want to hear it when an Idaho researcher told me that play in wild river otters has been exaggerated, and that most of what we've interpreted as play in wild river otters is actually activity required for survival. It sure *looks* like they're having fun.

In Virginia, river otters *(Lutra canadensis)* are most abundant in food-rich coastal estuaries, salt marshes, and swamps. They also inhabit streams and ponds where there is clean water and available food. The streams they prefer have forested, undisturbed banks and slow-moving water with deep, mud-bottomed pools and stretches where the water moves fast enough to stay open in winter.

River otters were once abundant throughout Virginia, but by the 1900s they were rare in most parts of the state. They were victims of excessive beaver trapping (otters were caught in beaver traps) and loss of habitat, including stream bank clearing, and farming practices, and pollution. Otters have made something of a comeback in the eastern and central Piedmont part of the state, but they are still rare west of the Blue Ridge. A study has been completed by Virginia Tech assessing the feasibility of reintroducing them into the western part of the state to establish breedable populations there.

An otter's home range generally includes about three to 10 miles of shoreline, but a breeding male can cover up to 100 square miles in a year. Breeding takes place in late winter, or early spring and copulation—sometimes a 20 minute affair—normally takes place in the water. Young, usually two to four, are born from the middle of January through the first of May in a den along the shoreline, often an abandoned muskrat or beaver lodge. The pups stay with the mother six to 11 months, but the family group breaks up before her next litter is due. The father associates with the female only during mating, and if you see a family group with what looks like a mother and a father, you're probably seeing a mother and a large son.

Fish, mussels, clams and crayfish form the bulk of an otter's diet, with a preference being for slow-moving "rough" fish like carp, suckers, and catfish. In addition, otters are opportunists, taking whatever food is most readily available to them, which may often turn out to be amphibians, insects, birds and mammals. Indeed, the importance of food items other than fish should not be underestimated, since researchers have found that captive river otters fed a basic diet of live fish often do poorly.

Otters are beautiful animals and extraordinary swimmers. Their bodies are streamlined, and their fur is dense and water-repellent. They have short legs, webbed toes, a powerful tail, and a stout neck. Their eyes sit almost on top of their flat heads, and both their small ears and prominent black noses close tightly when they dive. An otter can swim six to seven miles an hour, stay under water more than five minutes without surfacing for air, and dive 35 feet or more.

Even on land, otters are surprisingly agile. With a combination of a loping gait and sliding, an otter will find the smoothest distance between two points, traveling fast enough to evade a man. They're also ferocious when cornered.

Otters are active all year (they have a thick layer of insulating body fat), but that doesn't mean they're easy to spot. They're shy animals, and the females are especially elusive. If you spot a river otter, consider it a good omen—it's your lucky day. □